

Prevention is the Cure



Design for Six Sigma says, "Let's build in Quality from the Start."

By: Jill Jusko

Who hasn't heard of Six Sigma? Whether it is due to efforts to instill the quality management philosophy in their own companies or simply because the initiative has been widely publicized and promoted within industry during the last several years, most manufacturers have some level of knowledge about Six Sigma methodology. It provides a roadmap for attacking problems and as a goal strives for 3.4 defects per 1 million opportunities. Near perfection.

Not as widely trumpeted is Design For Six Sigma (DFSS), although it is drawing increased attention, particularly with the introduction this year of a new business book, "Design For Six Sigma: The Revolutionary Process for Achieving Extraordinary Profits" (2002, Dearborn Trade Publishing). In it author Subir Chowdhury contends that Six Sigma will take organizations only so far in their improvement goals, and that distance is not quite Six Sigma.

DFSS will drive the next level of efficiency, he contends.

The difference between the two strategies, writes Chowdhury, executive vice president of ASI-American Supplier Institute, Livonia, Mich., is "the difference between getting a tune-up and getting a brand-new engine; between patching your pants and getting a new pair." While Six Sigma tackles products or processes that already are flawed, DFSS aims to create new products or processes that are nearly perfect right from the start.

"Companies that correctly employ Design for Six Sigma will do less and less Six Sigma because the product is designed right the first time," Chowdhury says.

John Katona, of Delphi Corp., Troy, Mich., says it's not surprising that Six Sigma garners more attention than DFSS. It's easier to quantify the benefits of the former because it addresses existing problems, says Katona, Delphi Energy & Chassis Systems innovation and continuous-improvement methodologies deployment champion.

"The natural tendency is to work on what you can see, such as scrap material" or an overabundance of inventory, Katona says.

All new products in Katona's division go through the DFSS process. As a result, he says, "We have [created] products that are better able to operate through more customer applications for a longer period of time. The term that is used is 'robust.'"

"These methodologies have helped us to improve at a faster rate."

Among the tools of DFSS are quality function deployment (QFD), designed to help assure that the needs and wants of the customer are reflected in the process or product being designed; robust engineering; TRIZ, an inventive-problem-solving technique; and Taguchi Methods. Like Six

Sigma, DFSS frequently is presented as a five-step methodology by those who offer training in the quality strategy.

And DFSS is not applicable simply to new-product development. In fact, at Caterpillar Inc., Peoria, Ill., while DFSS methods are employed, "We chose not to use the DFSS acronym because these tools apply not only to product design, but also to design of processes or services," explains David Burritt, Caterpillar's corporate Six Sigma champion.

Delphi's Katona promotes the concept that good companies address quality on all fronts. "When you're looking at the pot of opportunities for quality," he explains, you can focus your efforts on fixing existing issues or you can work up front to prevent quality issues from ever arising.

"A good company works in both places."

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